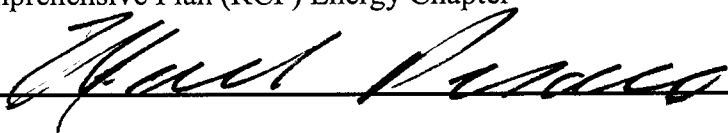


REPORT

DATE: November 2, 2006
TO: Energy and Environment Committee
FROM: Jennifer Brost Sarnecki, AICP, Associate Planner, (213) 236-1829,
sarnecki@scag.ca.gov
SUBJECT: Regional Comprehensive Plan (RCP) Energy Chapter

EXECUTIVE DIRECTOR'S APPROVAL



RECOMMENDED ACTION:

Release the preliminary outcomes for public review and input, and direct staff to perform technical refinements.

SUMMARY:

The Regional Comprehensive Plan (RCP) Task Force is guiding staff in the development of the preliminary performance outcomes for each of the nine chapters included in the plan. At their October meeting, the Task Force recommended preliminary outcomes and strategy for the Energy Chapter. At this time, the Task Force and staff are asking for approval to initiate a public input and review process for the proposed outcomes and strategy.

BACKGROUND:

The development of the RCP has proceeded through several stages, including process design and approach, policy compilation and review, and development of preliminary action plans. The process calls for the crafting of specific quantified performance outcomes as a central feature in each chapter. The outcomes represent the region's desired future position among a range of factors. Subsequent to defining these outcomes, the planning process will focus on crafting strategies to assure that the outcomes are achieved.

The RCP Task Force has recommended approval for the preliminary outcomes described in the attachment. Pending action from the Energy and Environment Committee, staff will seek input from cities, counties, sub-regions, other regions, and various other stakeholders and experts on whether these outcomes are appropriate, achievable, and a good representation of the policy priorities of the region.

In approximately six months, staff will present refinements to the outcomes and strategy along with the final draft of the chapter. The final RCP is scheduled to be adopted along with the Regional Transportation Plan (RTP) in December 2007.

FISCAL IMPACT:


Work performed for the Regional Comprehensive Plan is included in the current year SCAG Overall Work Program (07-035.scgs1)

Attachment:

Presentation
Proposal

REPORT

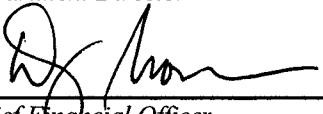
Reviewed
by:


Division Manager

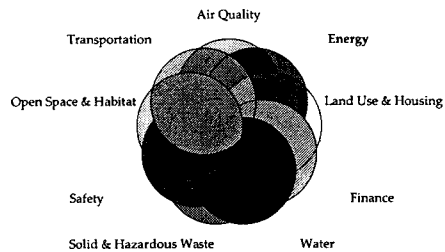
Affirmed
by:


Department Director

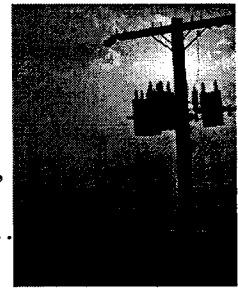
Affirmed
by:


Chief Financial Officer

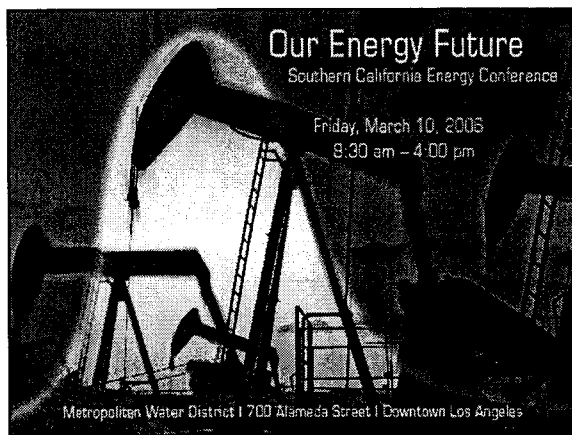
Regional Comprehensive Plan



Energy is our most precious resource, the greatest 20th century invention. Mobility, electricity, technology, telecommunications, agriculture, medicine...



Energy is the original currency, the source of wealth.

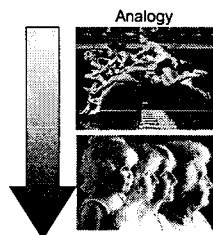


The Energy Experts



Peaking Is A Fact, Not A Concept

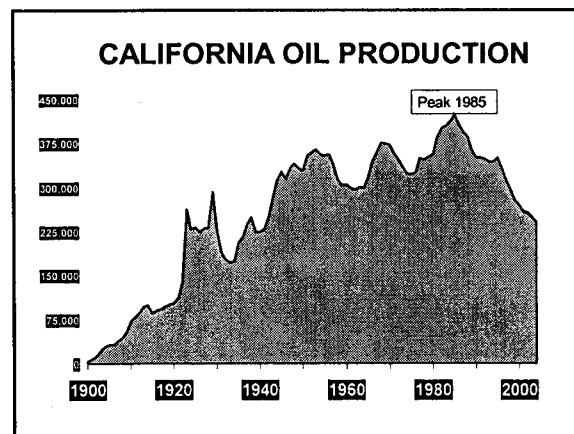
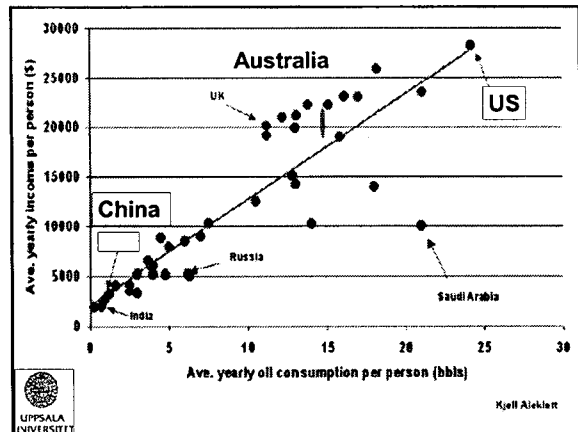
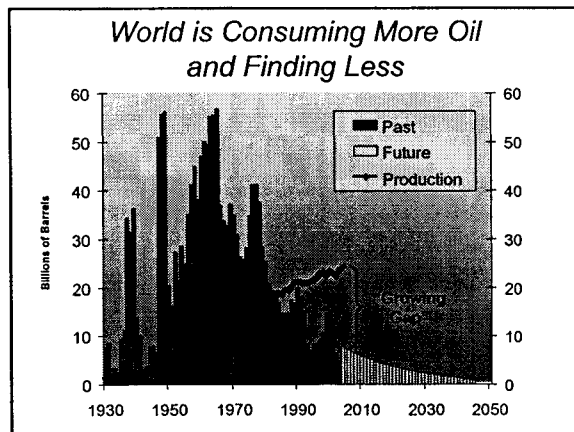
- All finite resources have their "limits to growth."
- The faster a resource is used, the sooner its use peaks.
- Peaking does not mean "running out."
- Peaking means further growth is over.
- Post-peak generally sees supply declines.



Identifying the date is the only unanswered question

When Will Oil Peak? No one knows for certain

Forecast	Source	
2006-2007	Bakhtiari (Iran)	5 years
2007-2009	Simmons (U.S.)	
After 2007	Skrebowski (U.K.)	
2008	Campbell (Ireland)	5-10 years
Before 2009	Deffeyes (U.S.)	
Before 2010	Goodstein (U.S.)	
After 2010	World Energy Council	> 15 years
2012	Weng (China)	
2016	Doug-Westwood (U.K.)	
After 2020	CERA (U.S.)	
2031 or later	EIA (U.S.)	



Oil Use Comparison

U.S.	California	SCAG
• 20 MM barrels/day	• 1 MM barrels/day	• 512,000 barrels/day
• 17 barrels/person	• 16 barrels/person	• 11 barrels/person

U.S. = 25% of world oil demand
= 67% used in transportation

Sources: U.S. Energy Information Administration, California Energy Commission, California Department of Transportation



Our Energy Future

- Soaring energy demand for next decades
- If extra oil not available then what is?
 - Nuclear?
 - Hydrogen??
 - Renewables:

Solar	Wind
Tidal	Biomass

October 5th RC Workshop

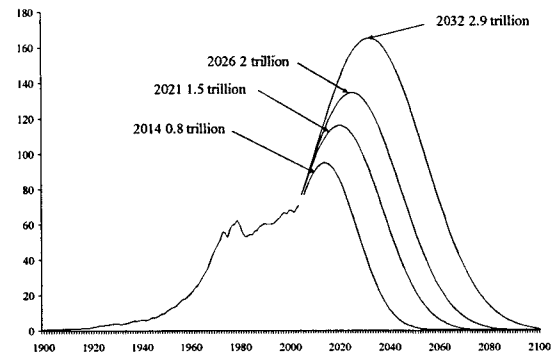
Robert Kaufmann, Professor, Boston University
Center for Energy and Environmental Studies
Department of Geography

Research:

- World oil markets
- Development & analysis of climate change policies
- Ecological economics



When Will Global Production Peak?



THREE POLICY RECOMMENDATIONS

- The federal government should increase vehicle fuel efficiency standards and initiate substitute liquid fuels mitigation options.
- State and local governments should encourage smart growth, telecommuting, mass transit, and other transportation fuel efficiency options and facilitate and expedite the siting of substitute liquid fuels plants.
- All levels of government should educate the public to the fact that we face a serious liquid fuels problem that will require controversial and unpopular measures to reduce demand and increase supply.

Source: "Peaking of World Oil Production: Impacts, Mitigation, & Risk Management" (February 2005)
Robert Hirsch, Roger Bezdek, and Robert Wendling.

Performance Outcome Proposal

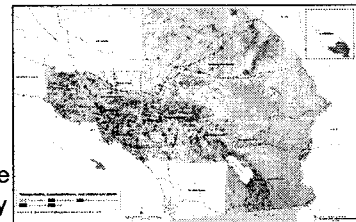
1. Decrease the region's consumption of fossil fuels
2. Increase the region's use of renewable energy for electricity production
3. Increase the region's use of alternative and renewable fuels for transportation

Activities/Plan Provisions

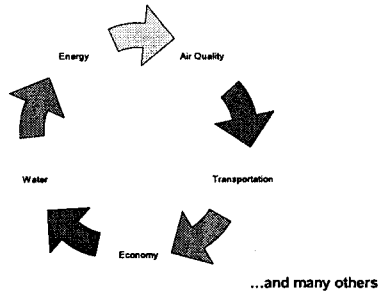
- Land Use and Zoning Strategies
- Transportation Decision-making
- Planning for Peak Oil

SCAG's Top Issues for the next 50 Years

- Transportation
- Energy
- Water
- Housing
- Education
- Air Quality/GHG
- Economic Justice
- Safety & Security
- Others??



Energy Interconnections



Questions & Comments



Regional Comprehensive Plan

Energy Chapter

Performance Outcomes and Strategy – Initial Proposal November 2006

DESCRIPTION: The initial performance outcomes and strategy included in this proposal are being put forward for consideration by the RCP Task Force, pending their consent, the Energy and Environment Committee (EEC) and the Regional Council (RC). Action by the EEC would direct staff to make technical refinements, and to seek input and participation from stakeholder and interested parties. At the conclusion of this public participation phase (approximately 6 months), staff will make a final proposal to the RCP Task Force, and subsequently, the EEC and RC.

The Performance Outcomes will be the central feature for each RCP Chapter. They establish the goals for the plan, and define the region's values across the range of planning and resource categories covered by the plan. Outcomes should be ambitious but achievable. In some cases, outcomes will be consistent with various requirements in established regional planning processes (such as air quality conformity). In these cases, the RCP outcome will be at least as stringent as the existing requirement.

1. **Outcome:** Decrease the region's consumption of fossil fuels
 - a. **Description:** Household fossil fuel consumption. Is the household fossil fuel consumption increasing or decreasing? The region's goal should be to reduce fossil fuel consumption from non-renewable resources. This may also include decreasing the overall per capita energy consumption (travel fuel, electricity, efficiency efforts for homes and businesses)
 - b. **Initial Proposed Quantified Outcome:** 20% reduction from current conditionsⁱ
 - c. **Data considerations:** Staff is uncertain if SCAG can substantiate fossil fuel use beyond travel fuel consumption.ⁱⁱ
 - d. **Note:** this will be related to VMT outcomes in SCAG's transportation model and air quality management plan
2. **Outcome:** Increase the region's use of renewable energy for electricity production
 - a. **Description:** Percentage share of renewable energy among all energy use.
 - b. **Initial Proposed Quantified Outcome:** Is the percentage share of renewable energy for electricity generation increasing?ⁱⁱⁱ
 - c. **Data considerations:** What's "renewable?" The available data source from SCE identifies renewable sources as cogeneration, wind, geothermal, solar, biomass, and small hydropower

3. **Outcome:** Increase the region's use of alternative/renewable fuels for transportation
 - a. **Description:** Alternative travel fuel consumption, aggregate total.
 - b. **Initial Proposed Quantified Outcome:** 20% increase from current conditions?^{iv}
 - c. **Data considerations:** What's "alternative?" Can we use state's definition? According to CEC, alternative fuels include electricity and electric drive train, ethanol, biodiesel, natural gas, hydrogen, propane. This data may not be available by county.
 - d. **Note:** could integrate with solid waste (biofuels)

Activities/Plan Provisions: The above-proposed outcomes will be addressed through the following initial strategies and activities:

Land Use and Zoning Strategies

SCAG, with consultant assistance, will research and report energy best practices in the region. The intent is to create a tool box for local agencies that choose to implement provisions of this plan. It should be noted that some of these strategies are aligned with the Compass 2% Strategy and air quality strategies. The energy efficient measures may include:

- Transit oriented development
- Distributed generation (solar-ready homes, wind, co-generation)
- Green building guidelines/LEED
- Sustainable planning (including water conservation)
- Conversion technologies
- Incentives for energy efficient development including density bonuses, expedited permitting, and fee reductions/waivers for projects that exceed Title 24 or install PV systems
- Encouraging energy policies in general plans
- Encouraging energy analyses in CEQA documents

Transportation Decision-making

SCAG, with consultant assistance, will research the economic impact scenarios of reduced oil supplies on the region. As the price of conventional energy increases, alternatives may become more cost effective. In addition, transportation modes and patterns will be affected by increased fuel prices. Related topics include transit investment, revenues from the gas tax, fuel conservation measures, goods movement, aviation planning, and alternative fuels.

Planning for Peak Oil

SCAG, with the assistance of a consultant, will forecast energy supply/demand scenarios and recommend local/regional best practices to plan for a constrained energy future. In general, recommendations may include:

- Energy conservation
- Investments in renewable sources of energy
- Local energy production and distributed generation
- Transit oriented development
- Local resources for food (community gardens)
- Examples of Model Programs in the State, Nation, International sources
 - Santa Monica
 - Chula Vista (distributed generation)
 - San Francisco
 - Willits, CA
 - Portland, OR
 - Hamilton, Ontario
 - Denver
 - Sweden
 - Brazil
 - Cuba

Interconnections: It is important to note that the energy plan provisions are related to all the subjects in the RCP. The following preliminary list describes some of these interconnections that staff proposes to pursue:

- Water – energy needed for conveyance
- Solid Waste – conversion technologies, biomass, biofuels
- Transportation – VMT reductions, mass transit, local fleet vehicles, goods movement
- Land Use/Housing – VMT reductions, Compass 2% Strategy, smart growth, green buildings
- Air Quality – limiting green house gas emissions, transportation fuels, power plant emissions
- Environmental justice – low-income energy efficiency, location of power plants, emissions in low-income areas, cost burden of energy
- Finance – potential reduction in gas tax revenue
- Economy – potential increase in jobs from a renewable energy industry
- Safety and Security – less dependant on foreign oil; distributed energy for local independence; understand hierarchy of distribution of services for telecommunications, water, fuel, food in case of emergency
- Open Space – permaculture, community gardens, agriculture, green roofs, urban forestry

ⁱ **State Issue 1:** As recommended by the California Energy Commission, the Governor and the Legislature should adopt a policy to reduce gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 (Source: CEC, Reducing California's Petroleum Dependence, August 2003)

State Issue 2: AB 32 (California Global Warming Solutions Act) requires a statewide greenhouse gas emissions limit. Staff will research the bill's impact the use of fossil fuels.

State Issue 3: SB 107 requires SCE (and all investor owned utilities) to have 20 percent of its electricity come from renewable sources by 2010.

Related note: Sweden's goal = end dependence on fossil fuels by 2020.

ⁱⁱ The current fuel usage data is available from the California Department of Transportation, Division of Transportation System Information, California Motor Vehicle Stock, Travel and Fuel Forecast. There may be additional barriers to obtaining energy consumption data from the CEC for the SCAG region since it does not match the SCE territory and may not account for municipal utilities. [Staff will continue to work with the energy consultant on this issue]

ⁱⁱⁱ **State issue 1:** California's RPS program was established to help diversify the state's electricity system and reduce its growing dependence on natural gas by increasing the percentage of renewables in the state's electricity mix to 20 percent by 2010. When the RPS was passed in 2002, California's electricity mix was 10.96 percent renewable. After three years of RPS implementation, however, generation from RPS-eligible resources has not grown faster than generation from other resources. As a result, the percentage of renewables in California in 2005 has not increased, but remained at just under 11 percent. (Source: CEC, http://www.energy.ca.gov/2007_energypolicy/notices/2006-07-06_ATTACHMENT_A.PDF)

State Issue 2: In June 2005, the Governor stated his goal is to meet 33 percent of statewide electric power supply with renewable energy by 2020 (increased from 20 percent by 2010) through the greenhouse gas emission reduction plan. (Source: CEC and CPUC (2005): Energy Action Plan II - Implementation Roadmap for Energy Policies; CEC (2005): 2005 Integrated Energy Policy Report - Committee Draft Report CEC-100-2005-007-CTD.) A CPUC Report found that it is economically and technologically feasible to achieve a 33% RPS in California by 2020.

State Issue 3: As stated in the CPUC report entitled, "Achieving a 33% Renewable Energy Target," accessing California's renewable resources to meet a 33 percent RPS will require expanding transmission capacity, increasing system operational flexibility, and changes to tariffs and rules governing use of the transmission system. Accomplishing this will need the coordinated efforts of the Federal Energy Regulatory Commission (FERC), the California Public Utilities Commission (CPUC), the California Independent System Operator (ISO) and the California Energy Commission (CEC)." (Source: CPUC, Achieving a 33% Renewable Energy Target, November 1, 2005, http://www.cpuc.ca.gov/word_pdf/misc/051102_FinalDraftReport_RenewableEnergy.pdf)

^{iv} **State Issue 1:** Use 20% alternative fuels by 2020 (alternative fuels include electricity and electric drive train, ethanol, biodiesel, natural gas, hydrogen, propane). Assembly Bill (AB) 1007 (Pavley, Chapter 371, Statutes of 2005) requires the California Energy Commission (Energy Commission) to prepare a state plan no later than June 30, 2007, to increase the use of alternative fuels in California (Alternative Fuels Plan). (Source, CEC, <http://energy.ca.gov/ab1007/>)

State Issue 2: AB 32 (California Global Warming Solutions Act) requires a statewide greenhouse gas emissions limit. Staff will research the bill's impact the use of fossil fuels.